To: Majik Medecine, LLC (aabundanthealth@aol.com) U.S. TRADEMARK APPLICATION NO. 86914580 - CBD MD - N/A **Subject:** Sent: 6/14/2016 9:05:13 PM Sent As: ECOM108@USPTO.GOV **Attachments:** Attachment - 1 Attachment - 2 Attachment - 3 Attachment - 4 Attachment - 5 Attachment - 6 Attachment - 7 Attachment - 8 Attachment - 9 Attachment - 10 Attachment - 11 Attachment - 12 Attachment - 13 Attachment - 14 Attachment - 15 Attachment - 16 Attachment - 17 Attachment - 18 Attachment - 19 Attachment - 20 Attachment - 21 Attachment - 22 Attachment - 23 Attachment - 24 Attachment - 25 Attachment - 26 Attachment - 27 Attachment - 28 Attachment - 29 Attachment - 30 Attachment - 31 Attachment - 32 Attachment - 33 Attachment - 34 Attachment - 35 Attachment - 36 Attachment - 37 Attachment - 38 Attachment - 39 Attachment - 40

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### UNITED STATES PATENT AND TRADEMARK OFFICE (USPTO) OFFICE ACTION (OFFICIAL LETTER) ABOUT APPLICANT'S TRADEMARK APPLICATION

CLICK HERE TO RESPOND TO THIS LETTER:

 $\underline{http://www.uspto.gov/trademarks/teas/response\_forms.jsp}$ 

U.S. APPLICATION SERIAL NO. 86914580

MARK: CBD MD \*86914580\*

**CORRESPONDENT ADDRESS:** 

MAJIK MEDECINE, LLC

MAJIK MEDECINE, LLC

629 VILLAGE LANE SOUTH

MANDEVILLE, LA 70471

VIEW YOUR APPLICATION FILE

APPLICANT: Majik Medecine, LLC

CORRESPONDENT'S REFERENCE/DOCKET NO:

N/A

CORRESPONDENT E-MAIL ADDRESS:

aabundanthealth@aol.com

### **OFFICE ACTION**

### STRICT DEADLINE TO RESPOND TO THIS LETTER

TO AVOID ABANDONMENT OF APPLICANT'S TRADEMARK APPLICATION, THE USPTO MUST RECEIVE APPLICANT'S COMPLETE RESPONSE TO THIS LETTER WITHIN 6 MONTHS OF THE ISSUE/MAILING DATE BELOW.

ISSUE/MAILING DATE: 6/14/2016

The referenced application has been reviewed by the assigned trademark examining attorney. Applicant must respond timely and completely to the issues below. 15 U.S.C. §1062(b); 37 C.F.R. §§2.62(a), 2.65(a); TMEP §§711, 718.03.

### SEARCH RESULTS

The trademark examining attorney has searched the Office's database of registered and pending marks and has found no conflicting marks that would bar registration under Trademark Act Section 2(d). TMEP \$704.02; see 15 U.S.C. \$1052(d).

### SECTION 2(e)(1) REFUSAL - MERELY DESCRIPTIVE

Registration is refused because the applied-for mark merely describes an ingredient and feature of applicant's goods and/or services, namely, the goods, and the goods featured in the applied-for services, contain cannabidiol ("CBD"), and some are medicated. Trademark Act Section 2(e)(1), 15 U.S.C. §1052(e)(1); see TMEP §§1209.01(b), 1209.03 et seq.

A mark is merely descriptive if it describes an ingredient, quality, characteristic, function, feature, purpose, or use of an applicant's goods and/or services. TMEP §1209.01(b); see, e.g., In re TriVita, Inc., 783 F.3d 872, 874, 114 USPQ2d 1574, 1575 (Fed. Cir. 2015) (quoting In re Oppedahl & Larson LLP, 373 F.3d 1171, 1173, 71 USPQ2d 1370, 1371 (Fed. Cir. 2004)); In re Steelbuilding.com, 415 F.3d 1293, 1297, 75 USPQ2d 1420, 1421 (Fed. Cir. 2005) (citing Estate of P.D. Beckwith, Inc. v. Comm'r of Patents, 252 U.S. 538, 543 (1920)).

The determination of whether a mark is merely descriptive is made in relation to an applicant's goods and/or services, not in the abstract. *DuoProSS Meditech Corp. v. Inviro Med. Devices, Ltd.*, 695 F.3d 1247, 1254, 103 USPQ2d 1753, 1757 (Fed. Cir. 2012); *In re The Chamber of Commerce of the U.S.*, 675 F.3d 1297, 1300, 102 USPQ2d 1217, 1219 (Fed. Cir. 2012); TMEP §1209.01(b); *see, e.g., In re Polo Int'l Inc.*, 51 USPQ2d 1061, 1062-63 (TTAB 1999) (finding DOC in DOC-CONTROL would refer to the "documents" managed by applicant's software rather than the term "doctor" shown in a dictionary definition); *In re Digital Research Inc.*, 4 USPQ2d 1242, 1243-44 (TTAB 1987) (finding CONCURRENT PC-DOS and CONCURRENT DOS merely descriptive of "computer programs recorded on disk" where the relevant trade used the denomination "concurrent" as a descriptor of a particular type of operating system). "Whether consumers could guess what the product [or service] is from consideration of the mark alone is not the test." *In re Am. Greetings Corp.*, 226 USPQ 365, 366 (TTAB 1985).

Here, the acronym "CBD" has already been disclaimed as descriptive, but the attached Internet evidence shows that it stands for "cannabidiol," which merely describes an ingredient of the applied-for goods, and the goods featured in the applied-for services. The acronym "MD" is regularly treated as descriptive for goods that are medicated, and thus merely describes a feature of some of the applied-for goods, and goods featured in the applied-for services. Please see the attached Third Party Registrations for similar goods and services where "MD" has been disclaimed as descriptive. It should be noted that a mark does not need to be merely descriptive of all the goods or services specified in an application. *In re The Chamber of Commerce of the U.S.*, 675 F.3d 1297, 1300, 102 USPQ2d 1217, 1219 (Fed. Cir. 2012); *In re Franklin Cnty. Historical Soc'y*, 104 USPQ2d 1085, 1089 (TTAB 2012). "A descriptiveness refusal is proper 'if the mark is descriptive of any of the [goods or] services for which registration is sought." *In re The Chamber of Commerce of the U.S.*, 675 F.3d at 1300, 102 USPQ2d at 1219 (quoting *In re Stereotaxis Inc.*, 429 F.3d 1039, 1040, 77 USPQ2d 1087, 1089 (Fed. Cir. 2005)). Therefore, the fact that some of the goods in the application may not be medicated does not obviate the finding that the mark is merely descriptive.

Generally, if the individual components of a mark retain their descriptive meaning in relation to the goods and/or services, the combination results in a composite mark that is itself descriptive and not registrable. *In re Phoseon Tech., Inc.*, 103 USPQ2d 1822, 1823 (TTAB 2012); TMEP §1209.03(d); *see, e.g., In re Cannon Safe, Inc.*, 116 USPQ2d 1348, 1351 (TTAB 2015) (holding SMART SERIES merely descriptive of metal gun safes, because "each component term retains its merely descriptive significance in relation to the goods, resulting in a mark that is also merely descriptive"); *In re King Koil Licensing Co.*, 79 USPQ2d 1048, 1052 (TTAB 2006) (holding THE BREATHABLE MATTRESS merely descriptive of beds, mattresses, box springs, and pillows where the evidence showed that the term "BREATHABLE" retained its ordinary dictionary meaning when combined with the term "MATTRESS" and the resulting combination was used in the relevant industry in a descriptive sense); *In re Associated Theatre Clubs Co.*, 9 USPQ2d 1660, 1663 (TTAB 1988) (holding GROUP SALES BOX OFFICE merely descriptive of theater ticket sales services, because such wording "is nothing more than a combination of the two common descriptive terms most applicable to applicant's services which in combination achieve no different status but remain a common descriptive compound expression").

Only where the combination of descriptive terms creates a unitary mark with a unique, incongruous, or otherwise nondescriptive meaning in relation to the goods and/or services is the combined mark registrable. *See In re Colonial Stores, Inc.*, 394 F.2d 549, 551, 157 USPQ 382, 384 (C.C.P.A. 1968); *In re Positec Grp. Ltd.*, 108 USPQ2d 1161, 1162-63 (TTAB 2013).

In this case, both the individual components and the composite result are descriptive of applicant's goods and/or services and do not create a unique, incongruous, or nondescriptive meaning in relation to the goods and/or services. Specifically, the mark immediately merely describes an ingredient and feature of applicant's goods and/or services, namely, the goods, and the goods featured in the applied-for services, contain cannabidiol ("CBD"), and some are medicated. Accordingly, registration is refused pursuant to Trademark Act Section 2(e)(1).

### SUPPLEMENTAL REGISTER

The applied-for mark has been refused registration on the Principal Register. Applicant may respond to the refusal by submitting evidence and arguments in support of registration and/or by amending the application to seek registration on the Supplemental Register. *See* 15 U.S.C. §1091; 37 C.F.R. §§2.47, 2.75(a); TMEP §§801.02(b), 816. Amending to the Supplemental Register does not preclude applicant from submitting evidence and arguments against the refusal(s). TMEP §816.04.

Although registration on the Supplemental Register does not afford all the benefits of registration on the Principal Register, it does provide the following advantages:

- The registrant may use the registration symbol ®;
- The registration is protected against registration of a confusingly similar mark under Trademark Act Section 2(d);
- The registrant may bring suit for infringement in federal court; and
- The registration may serve as the basis for a filing in a foreign country under the Paris Convention and other international agreements.

See 15 U.S.C. §§1052(d), 1091, 1094; TMEP §815.

APPLICANT SHOULD NOTE THAT AN AMENDMENT TO THE SUPPLEMENTAL REGISTER WILL NOT OVERCOME A POTENTIAL UNLAWFUL USE IN COMMERCE REFUSAL BELOW.

### DISCLAIMER IF AMENDING TO THE SUPPLEMENTAL REGISTER

Applicant is advised that, if the application is amended to seek registration on the Supplemental Register, applicant will be required to disclaim "CBD" because such wording appears to be generic in the context of applicant's goods and/or services. *See* 15 U.S.C. §1056(a); *In re Wella Corp.*, 565 F.2d 143, 144, 196 USPQ 7, 8 (C.C.P.A. 1977); *In re Creative Goldsmiths of Wash., Inc.*, 229 USPQ 766, 768 (TTAB 1986); TMEP §1213.03(b).

The following is the standardized format for a disclaimer:

No claim is made to the exclusive right to use "CBD" apart from the mark as shown.

TMEP §1213.08(a)(i).

If applicant responds to the refusal, applicant must also respond to the requirements set forth below.

### IDENTIFICATION OF GOODS AND SERVICES

Applicant's mark includes the wording "CBD", which indicates that applicant's goods and/or services have and/or exhibit, (or will have and/or will exhibit) the following feature or characteristic: the applicant's goods, and the goods featured in its services, contain cannabidiol.

This feature or characteristic is considered desirable for applicant's goods and/or services because cannabidiol has been found to have many health benefits, such as being an antioxidant, providing pain relief, and it may help treat cancer and depression. Please see the attached Internet evidence. However, if some or all of the goods and/or services do not (or will not) in fact have or exhibit this feature or characteristic, then registration may be refused because the mark consists of or includes deceptive matter in relation to the identified goods and/or services. *See* 15 U.S.C. §1052(a); *In re Budge Mfg. Co.*, 857 F.2d 773, 8 USPQ2d 1259 (Fed. Cir. 1988); TMEP §1203.02-.02(b).

To avoid such refusal, applicant may amend the identification to specify that the goods and/or services possess this relevant feature or characteristic. *See* TMEP §§1203.02(e)(ii), (f)(i), 1402.05 *et seq*. However, merely amending the identification to exclude goods or services with the named feature or characteristic will not avoid a deceptiveness refusal. TMEP §1203.02(f)(i).

The wording "featuring cbd sales" in the identification of services is indefinite and must be clarified to specify the type of "cbd sales," e.g., "CBD products." See 37 C.F.R. §2.32(a)(6); TMEP §1402.01.

Therefore, applicant may amend the identification to the following, if accurate. The wording that appears in **bold** and/or *italics* below represents the suggested changes. Any wording that is crossed out represents matter that must be deleted from the identification.

International Class 3: Skin and body topical lotions, creams and oils for cosmetic use; all of the aforementioned containing CBD

International Class 5: Medicinal creams for skin care; Medicinal herbal preparations; Medicinal oils; Herbs for medicinal purposes; all of the aforementioned containing CBD

**International Class 35:** On-line wholesale store services featuring cosmetic and herbal products **containing CBD**; On-line wholesale store services featuring **CBD products** 

Applicant's goods and/or services may be clarified or limited, but may not be expanded beyond those originally itemized in the application or as acceptably amended. See 37 C.F.R. §2.71(a); TMEP §1402.06. Applicant may clarify or limit the identification by inserting qualifying language or deleting items to result in a more specific identification; however, applicant may not substitute different goods and/or services or add goods and/or services not found or encompassed by those in the original application or as acceptably amended. See TMEP §1402.06(a)-(b). The scope of the goods and/or services sets the outer limit for any changes to the identification and is generally determined by the ordinary meaning of the wording in the identification. TMEP §\$1402.06(b), 1402.07(a)-(b). Any acceptable changes to the goods and/or services will further limit scope, and once goods and/or services are deleted, they are not permitted to be reinserted. TMEP §1402.07(e).

For assistance with identifying and classifying goods and services in trademark applications, please see the USPTO's online searchable <u>U.S.</u>

Acceptable Identification of Goods and Services Manual. See TMEP §1402.04.

### REQUIREMENT FOR ADDITIONAL INFORMATION – MARIJUANA-RELATED GOODS/SERVICES

To permit proper examination of the application, applicant must submit additional information about the goods and/or services. *See* 37 C.F.R. §§2.61(b), 2.69; *In re Stellar Int'l, Inc.*, 159 USPQ 48, 50-52 (TTAB 1968); TMEP §§814, 907. The requested information should include fact sheets, brochures, advertisements, and/or similar materials relating to the goods and/or services. If such materials are not available, applicant must provide a detailed factual description of the goods and/or services. Any information submitted in response to this requirement must clearly and accurately indicate the nature of the goods and/or services identified in the application.

In addition, applicant must submit a written statement indicating whether all the goods and/or services identified in the application will comply with relevant federal law, including the Controlled Substances Act (CSA), 21 U.S.C. §\$801-971. See 37 C.F.R. §2.69; TMEP §907. The CSA prohibits, among other things, manufacturing, distributing, dispensing, or possessing certain controlled substances, including marijuana and marijuana-based preparations. 21 U.S.C. §\$812, 841(a)(1), 844(a); see also 21 U.S.C. §802(16) (defining "[marijuana]"). The CSA also makes it unlawful to sell, offer for sale, or use any facility of interstate commerce to transport drug paraphernalia, i.e., "any equipment, product, or material of any kind which is primarily intended or designed for use in manufacturing, compounding, converting, concealing, producing, processing, preparing, injecting, ingesting, inhaling, or otherwise introducing into the human body a controlled substance, possession of which is unlawful under [the CSA]." 21 U.S.C. §863.

Finally, applicant must provide written responses to the following questions:

- "Do applicant's identified goods, or the goods featured in the applicant's services, contain marijuana, marijuana-based preparations, or marijuana extracts or derivatives, synthetic marijuana, or any other illegal controlled substances?;"
- "Is the CBD in the applied-for goods, and the goods featured in the applicant's services, derived from marijuana or from industrial hemp?"
- "Are the applicant's goods/services lawful pursuant to the Controlled Substances Act?"

Failure to satisfactorily respond to a requirement for information is a ground for refusing registration. *See In re Cheezwhse.com, Inc.*, 85 USPQ2d 1917, 1919 (TTAB 2008); *In re Garden of Eatin' Inc.*, 216 USPQ 355, 357 (TTAB 1982); TMEP §814. Please note that merely stating that information about the goods and services is available on applicant's website is an inappropriate response to the above requirement and is insufficient to make the relevant information properly of record. *See In re Planalytics, Inc.*, 70 USPQ2d 1453, 1457-58 (TTAB 2004).

Applicant is advised that, upon consideration of the information provided by applicant in response to the above requirement, registration of the applied-for mark may be refused on the ground that the mark, as used in connection with the identified goods and/or services, is not in lawful use in commerce. Trademark Act Sections 1 and 45, 15 U.S.C. §§1051, 1127.

### RESPONSE GUIDELINES

For this application to proceed further, applicant must explicitly address each refusal and/or requirement raised in this Office action. If the action includes a refusal, applicant may provide arguments and/or evidence as to why the refusal should be withdrawn and the mark should register. Applicant may also have other options for responding to a refusal and should consider such options carefully. To respond to requirements and certain refusal response options, applicant should set forth in writing the required changes or statements. For more information and general tips on responding to USPTO Office actions, response options, and how to file a response online, see "Responding to Office Actions" on the USPTO's website.

If applicant does not respond to this Office action within six months of the issue/mailing date, or responds by expressly abandoning the application, the application process will end and the trademark will fail to register. *See* 15 U.S.C. §1062(b); 37 C.F.R. §§2.65(a), 2.68(a); TMEP §§718.01, 718.02. Additionally, the USPTO will not refund the application filing fee, which is a required processing fee. *See* 37 C.F.R. §§2.6(a)(1)(i)-(iv), 2.209(a); TMEP §405.04.

Where the application has been abandoned for failure to respond to an Office action, applicant's only option would be to file a timely petition to revive the application, which, if granted, would allow the application to return to active status. *See* 37 C.F.R. §2.66; TMEP §1714. There is a \$100 fee for such petitions. *See* 37 C.F.R. §\$2.6, 2.66(b)(1).

Because of the legal technicalities and strict deadlines involved in the USPTO application process, applicant may wish to hire a private attorney specializing in trademark matters to represent applicant in this process and provide legal advice. Although the undersigned trademark examining attorney is permitted to help an applicant understand the contents of an Office action as well as the application process in general, no USPTO attorney or staff is permitted to give an applicant legal advice or statements about an applicant's legal rights. TMEP §§705.02, 709.06.

For attorney referral information, applicant may consult the <u>American Bar Association's Consumers' Guide to Legal Help</u>, an attorney referral service of a state or local bar association, or a local telephone directory. The USPTO may not assist an applicant in the selection of a private attorney. 37 C.F.R. §2.11.

If applicant has questions regarding this Office action, please telephone or e-mail the assigned trademark examining attorney. All relevant e-mail communications will be placed in the official application record; however, an e-mail communication will not be accepted as a response to this Office action and will not extend the deadline for filing a proper response. See 37 C.F.R. §§2.62(c), 2.191; TMEP §§304.01-.02, 709.04-.05. Further, although the trademark examining attorney may provide additional explanation pertaining to the refusal(s) and/or requirement(s) in this Office action, the trademark examining attorney may not provide legal advice or statements about applicant's rights. See TMEP §§705.02, 709.06.

TEAS PLUS OR TEAS REDUCED FEE (TEAS RF) APPLICANTS – TO MAINTAIN LOWER FEE, ADDITIONAL REQUIREMENTS MUST BE MET, INCLUDING SUBMITTING DOCUMENTS ONLINE: Applicants who filed their application online using the lower-fee TEAS Plus or TEAS RF application form must (1) file certain documents online using TEAS, including responses to Office

actions (see TMEP §§819.02(b), 820.02(b) for a complete list of these documents); (2) maintain a valid e-mail correspondence address; and (3) agree to receive correspondence from the USPTO by e-mail throughout the prosecution of the application. *See* 37 C.F.R. §§2.22(b), 2.23(b); TMEP §§819, 820. TEAS Plus or TEAS RF applicants who do not meet these requirements must submit an additional processing fee of \$50 per international class of goods and/or services. 37 C.F.R. §§2.6(a)(1)(v), 2.22(c), 2.23(c); TMEP §§819.04, 820.04. However, in certain situations, TEAS Plus or TEAS RF applicants may respond to an Office action by authorizing an examiner's amendment by telephone without incurring this additional fee.

/Lindsey H. Ben/
Lindsey H. Ben
Trademark Examining Attorney
Law Office 108
(571) 272-4239
Lindsey.Ben@uspto.gov

**TO RESPOND TO THIS LETTER:** Go to <a href="http://www.uspto.gov/trademarks/teas/response\_forms.jsp">http://www.uspto.gov/trademarks/teas/response\_forms.jsp</a>. Please wait 48-72 hours from the issue/mailing date before using the Trademark Electronic Application System (TEAS), to allow for necessary system updates of the application. For technical assistance with online forms, e-mail <a href="mailto:TEAS@uspto.gov">TEAS@uspto.gov</a>. For questions about the Office action itself, please contact the assigned trademark examining attorney. **E-mail communications will not be accepted as responses to Office actions; therefore, do not respond to this Office action by e-mail.** 

All informal e-mail communications relevant to this application will be placed in the official application record.

**WHO MUST SIGN THE RESPONSE:** It must be personally signed by an individual applicant or someone with legal authority to bind an applicant (i.e., a corporate officer, a general partner, all joint applicants). If an applicant is represented by an attorney, the attorney must sign the response.

**PERIODICALLY CHECK THE STATUS OF THE APPLICATION:** To ensure that applicant does not miss crucial deadlines or official notices, check the status of the application every three to four months using the Trademark Status and Document Retrieval (TSDR) system at <a href="http://tsdr.uspto.gov/">http://tsdr.uspto.gov/</a>. Please keep a copy of the TSDR status screen. If the status shows no change for more than six months, contact the Trademark Assistance Center by e-mail at <a href="mailto:TrademarkAssistanceCenter@uspto.gov">TrademarkAssistanceCenter@uspto.gov</a> or call 1-800-786-9199. For more information on checking status, see <a href="http://www.uspto.gov/trademarks/process/status/">http://www.uspto.gov/trademarks/process/status/</a>.

TO UPDATE CORRESPONDENCE/E-MAIL ADDRESS: Use the TEAS form at http://www.uspto.gov/trademarks/teas/correspondence.jsp.

### **DESIGN MARK**

### Serial Number

77246732

### Status

SECTION 8 & 15-ACCEPTED AND ACKNOWLEDGED

### **Word Mark**

JALIMAN MD

### Standard Character Mark

Yes

### **Registration Number**

3627737

### **Date Registered**

2009/05/26

### Type of Mark

TRADEMARK

### Register

PRINCIPAL

### **Mark Drawing Code**

(4) STANDARD CHARACTER MARK

### Owner

Jaliman M.D., H. Debra INDIVIDUAL UNITED STATES 931 Fifth Avenue New York NEW YORK 10021

### Goods/Services

Class Status -- ACTIVE. IC 003. US 001 004 006 050 051 052. G & S: Skin care products, namely, facial cleansers, sunscreens, skin moisturizers, non-medicated facial masks, facial peels, skin care facial toners; non-medicated anti-aging products, namely, serums, creams and lotions; non-medicated lip moisturizers, namely, lip balms and lip sunscreens; hair care products, namely, hair shampoos and conditioners; acne treatment products, namely, non-medicated acne treatment preparations; non-medicated skin care products, namely, pads impregnated with exfoliating acid. First Use: 2008/04/01. First Use In Commerce: 2008/04/01.

### Goods/Services

Class Status -- ACTIVE. IC 005. US 006 018 044 046 051 052. G & S: Vitamin supplements; acne treatment products, namely, medicated acne treatment preparations; medicated skin care products, namely, pads impregnated with acid for the treatment of acne. First Use: 2008/04/01. First Use In Commerce: 2008/04/01.

77246732 Print: Jun 14, 2016

### Disclaimer Statement

NO CLAIM IS MADE TO THE EXCLUSIVE RIGHT TO USE "MD" APART FROM THE MARK AS SHOWN.

### **Filing Date**

2007/08/03

Examining Attorney POVARCHUK, REBECCA

### Attorney of Record

Marylee Jenkins

# JALIMAN MD

### **DESIGN MARK**

### Serial Number

78967490

### Status

REGISTERED

### **Word Mark**

REJUVE MD

### **Standard Character Mark**

Yes

### Registration Number

3983376

### **Date Registered**

2011/06/28

### Type of Mark

TRADEMARK

### Register

PRINCIPAL

### **Mark Drawing Code**

(4) STANDARD CHARACTER MARK

### Owner

Kadavi, Arash INDIVIDUAL UNITED STATES 12121 Wilshire Blvd. Suite 1012 Los Angeles CALIFORNIA 90035

### Owner

Advanced Skin and Hair, Inc. CORPORATION CALIFORNIA 12121 Wilshire Blvd. Suite 1012 Los Angeles CALIFORNIA 90035

### Goods/Services

Class Status -- ACTIVE. IC 003. US 001 004 006 050 051 052. G & S: Non-medicated skin lotion, facial mask lotion, skin cleanser, skin toner, lip balm, eye lotion, hair shampoo, hair conditioner, hair lotion, bathing lotion, beauty lotion, make-up removing lotion, toning lotion for the face, body and hands, sun-tan lotion, sun-block lotion, shaving lotion, after-shave lotion, anti-aging lotion, anti-wrinkle lotion, skin exfoliant lotion. First Use: 2004/10/15. First Use In Commerce: 2004/10/15.

### Goods/Services

Class Status -- ACTIVE. IC 005. US 006 018 044 046 051 052. G & S: Medicated skin lotion, medicated skin cleaners, medicated lip balm, medicated eye lotion, medicated hair shampoo, medicated hair

conditioner, medicated hair lotion, medicated bathing lotion, medicated sun-tan lotion, medicated sun-block lotion. First Use: 2004/10/15. First Use In Commerce: 2004/10/15.

### Disclaimer Statement

NO CLAIM IS MADE TO THE EXCLUSIVE RIGHT TO USE "MD" APART FROM THE MARK AS SHOWN.

### Filing Date

2006/09/05

### **Examining Attorney**

BESCH, JAY

### Attorney of Record

F. Jason Far-hadian

## REJUVE MD

### **DESIGN MARK**

### Serial Number

85401274

### Status

REGISTERED

### **Word Mark**

PERRICONE MD

### Standard Character Mark

Yes

### Registration Number

4115011

### **Date Registered**

2012/03/20

### Type of Mark

TRADEMARK

### Register

PRINCIPAL

### **Mark Drawing Code**

(4) STANDARD CHARACTER MARK

### Owner

N.V. Perricone LLC LIMITED LIABILITY COMPANY DELAWARE 600 Montgomery Street San Francisco CALIFORNIA 94111

### Goods/Services

Class Status -- ACTIVE. IC 003. US 001 004 006 050 051 052. G & S: Beauty serums; Body and beauty care cosmetics; Cosmetic creams for skin care; Cosmetic preparations for skin renewal; Cosmetic sunscreen preparations; Cosmetics; Eye cream; Facial moisturizer with SPF; Hand creams; Lip balm; Make-up foundations; Non-medicated acne treatment preparations; Skin cleansers; Skin conditioners; Skin cream; Skin lotion; Skin moisturizer; Skin toners. First Use: 2008/01/09. First Use In Commerce: 2008/01/09.

### Goods/Services

Class Status -- ACTIVE. IC 005. US 006 018 044 046 051 052. G & S: Dietary and nutritional supplements. First Use: 2008/04/15. First Use In Commerce: 2008/04/15.

### Prior Registration(s)

3015522;3126999;4038856;AND OTHERS

### Disclaimer Statement

NO CLAIM IS MADE TO THE EXCLUSIVE RIGHT TO USE "MD" APART FROM THE MARK AS SHOWN.

### Filing Date

2011/08/18

### **Examining Attorney**

DELANEY, ZHALEH

### Attorney of Record

Stephen P. McNamara

### PERRICONE MD

### **DESIGN MARK**

### Serial Number

85573477

### **Status**

REGISTERED

### **Word Mark**

PROACTIV MD

### Standard Character Mark

Yes

### **Registration Number**

4451945

### **Date Registered**

2013/12/17

### Type of Mark

TRADEMARK

### Register

PRINCIPAL

### **Mark Drawing Code**

(4) STANDARD CHARACTER MARK

### Owner

GR SWISS JV, LLC LIMITED LIABILITY COMPANY DELAWARE 41-550 ECLECTIC STREET, SUITE 200 PALM DESERT CALIFORNIA 92260

### Goods/Services

Class Status -- ACTIVE. IC 003. US 001 004 006 050 051 052. G & S: Skin and body care preparations, namely, skin cleansers, skin moisturizers, skin lotions, skin soaps, sun screen preparations, cosmetics, non-medicated skin care preparations. First Use: 2013/04/02. First Use In Commerce: 2013/04/02.

### Goods/Services

Class Status -- ACTIVE. IC 005. US 006 018 044 046 051 052. G & S: Acne treatment preparations. First Use: 2013/04/02. First Use In Commerce: 2013/04/02.

### Goods/Services

Class Status -- ACTIVE. IC 010. US 026 039 044. G & S: Electronic medical devices for the treatment of acne. First Use: 2013/04/02. First Use In Commerce: 2013/04/02.

### Prior Registration(s)

1890769;2162306;2574142;AND OTHERS

### Disclaimer Statement

NO CLAIM IS MADE TO THE EXCLUSIVE RIGHT TO USE "MD" APART FROM THE MARK AS SHOWN.

### Filing Date

2012/03/19

### **Examining Attorney**

DWYER, JOHN

### Attorney of Record

Marnie Wright Barnhorst

### PROACTIV MD

### **DESIGN MARK**

### Serial Number

85618147

### Status

REGISTERED

### **Word Mark**

RH MD

### Standard Character Mark

Yes

### Registration Number

4267913

### **Date Registered**

2013/01/01

### Type of Mark

TRADEMARK; SERVICE MARK

### Register

PRINCIPAL

### **Mark Drawing Code**

(4) STANDARD CHARACTER MARK

### Owner

RHMD LLC LIMITED LIABILITY COMPANY FLORIDA 12-305 7777 N WICKHAM ROAD Melbourne FLORIDA 32940

### Goods/Services

Class Status -- ACTIVE. IC 003. US 001 004 006 050 051 052. G & S: Body butter; Skin lotion; Sunscreen cream. First Use: 2012/04/05. First Use In Commerce: 2012/04/05.

### Goods/Services

Class Status -- ACTIVE. IC 005. US 006 018 044 046 051 052. G & S: Dietary supplements; Herbal supplements; Vitamin supplements. First Use: 2012/04/05. First Use In Commerce: 2012/04/05.

### Goods/Services

Class Status -- ACTIVE. IC 044. US 100 101. G & S: Health care services, namely, wellness programs; Providing information about dietary supplements and nutrition; Providing wellness services, namely, weight loss programs offered at a wellness center. First Use: 2012/04/05. First Use In Commerce: 2012/04/05.

### **Disclaimer Statement**

NO CLAIM IS MADE TO THE EXCLUSIVE RIGHT TO USE "MD" APART FROM THE MARK AS SHOWN.

### Filing Date

2012/05/07

### **Examining Attorney**

STINE, DAVID

### Attorney of Record

Kelly G Swartz

# RH MD

### **DESIGN MARK**

### **Serial Number**

85657207

### Status

REGISTERED

### **Word Mark**

REVEAL MD

### Standard Character Mark

Yes

### Registration Number

4452077

### **Date Registered**

2013/12/17

### Type of Mark

TRADEMARK

### Register

PRINCIPAL

### **Mark Drawing Code**

(4) STANDARD CHARACTER MARK

### Owner

Advanced Dermatology, P.C. CORPORATION NEW YORK 6 Lowell Avenue New Hyde Park NEW YORK 11040

### Goods/Services

Class Status -- ACTIVE. IC 003. US 001 004 006 050 051 052. G & S: Cosmetic creams for skin care; Cosmetic preparations; Cosmetic preparations for skin care; Cosmetic preparations for skin renewal; Non-medicated skin care creams and lotions; Non-medicated skin care preparations. First Use: 2012/08/00. First Use In Commerce: 2012/08/00.

### Goods/Services

Class Status -- ACTIVE. IC 005. US 006 018 044 046 051 052. G & S: Medicated creams for treating dermatological conditions; Medicated skin care preparations; Pharmaceutical preparations for skin care. First Use: 2012/08/00. First Use In Commerce: 2012/08/00.

### **Disclaimer Statement**

NO CLAIM IS MADE TO THE EXCLUSIVE RIGHT TO USE "MD" APART FROM THE MARK AS SHOWN.

Filing Date 2012/06/20

Examining Attorney BULLOFF, TOBY

Attorney of Record Harris A. Wolin

## REVEAL MD

### **DESIGN MARK**

### Serial Number

86072705

### Status

REGISTERED

### **Word Mark**

VIDA MD

### Standard Character Mark

Yes

### Registration Number

4573715

### **Date Registered**

2014/07/22

### Type of Mark

TRADEMARK; SERVICE MARK

### Register

PRINCIPAL

### **Mark Drawing Code**

(4) STANDARD CHARACTER MARK

### Owner

Science Food Supplements & Nutrition, LLC LIMITED LIABILITY COMPANY FLORIDA 6141 Sunset Dr., Suite 301 Miami FLORIDA 33143

### Goods/Services

Class Status -- ACTIVE. IC 005. US 006 018 044 046 051 052. G & S: Calcium supplements; Dietary and nutritional supplements; Dietary and nutritional supplements for endurance sports; Dietary and nutritional supplements used for weight loss; Dietary beverage supplements for human consumption in liquid and dry mix form for therapeutic purposes; Dietary food supplements; Dietary supplement beverage for humans; Dietary supplemental drinks; Dietary supplemental drinks in the nature of vitamin and mineral beverages; Dietary supplements; Dietary supplements for controlling cholesterol; Dietary supplements for human consumption; Dietary supplements for urinary health; Enzyme dietary supplements; Enzyme food supplements; Food supplements for humans; Food supplements, namely, anti-oxidants; Gummy vitamins; Health food supplements; Herbal supplements; Herbal supplements for sleeping problems; Herbal supplements for humans; Homeopathic supplements; Liquid nutritional supplement; Liquid vitamin supplements; Medicated supplements for foodstuffs for animals; Medicated supplements for foodstuffs for babies; Mineral, vitamin, or nutritionally enhanced

water; Mixed vitamin preparations; Multi-vitamin preparations; Natural supplements for treating depression and anxiety; Natural supplements for treating erectile dysfunction; Nutraceuticals for use as a dietary supplement; Nutraceuticals for use as a dietary supplement for humans; Nutritional and dietary supplements formed and packaged as bars; Nutritional supplement energy bars; Nutritional supplement for eliminating toxins from the body; Nutritional supplement for eliminating toxins from the intestinal tract; Nutritional supplement shakes; Nutritional supplements; Nutritional supplements in lotion form sold as a component of nutritional skin care products; Nutritional supplements in the form of capsules and tablets; Nutritional supplements in the nature of nutritionally fortified soft chews; Nutritional supplements, namely, probiotic compositions; Prenatal vitamins; Protein dietary supplements; Protein supplement shakes; Vitamin A preparations; Vitamin and mineral formed and packaged as bars; Vitamin and mineral preparations for medical use; Vitamin and mineral supplements; Vitamin and mineral supplements for use as ingredients in the food and pharmaceutical industry; Vitamin B preparations; Vitamin C preparations; Vitamin D preparations; Vitamin drops; Vitamin enriched sparkling water; Vitamin enriched water; Vitamin fortified beverages; Vitamin oils for human consumption; Vitamin supplement in tablet form for use in making an effervescent beverage when added to water; Vitamin supplements; Vitamin tablets; Vitamins; Vitamins and dietary food supplements for animals; Vitamins and vitamin preparations; Vitamins for pets; Weight management supplements. First Use: 2013/05/01. First Use In Commerce: 2014/05/09.

### Goods/Services

Class Status -- ACTIVE. IC 044. US 100 101. G & S: Conducting telephone and in-person personal lifestyle wellness assessments; Counseling services in the fields of health, nutrition and lifestyle wellness; Providing a website featuring information and advice in the fields of diet, weight loss, diet planning and lifestyle wellness; Providing a website featuring information regarding healthy living and lifestyle wellness; Providing healthy lifestyle and nutrition services, namely, personal assessments, personalized routines, maintenance schedules, and counseling; Providing information about dietary supplements and nutrition; Providing information on maintaining a healthy lifestyle and losing weight; Vitamin therapy. First Use: 2013/05/01. First Use In Commerce: 2014/05/09.

### **Disclaimer Statement**

NO CLAIM IS MADE TO THE EXCLUSIVE RIGHT TO USE "MD" APART FROM THE MARK AS SHOWN.

### **Colors Claimed**

Color is not claimed as a feature of the mark.

### Filing Date

2013/09/24

Print: Jun 14, 2016 86072705

Examining Attorney NELSON, EDWARD H.

Attorney of Record

Marissa L. Schwartz

# Vida MD

### **DESIGN MARK**

### **Serial Number**

86417900

### Status

REGISTERED

### **Word Mark**

AURAE MD

### Standard Character Mark

No

### Registration Number

4862011

### **Date Registered**

2015/12/01

### Type of Mark

TRADEMARK

### Register

PRINCIPAL

### **Mark Drawing Code**

(3) DESIGN PLUS WORDS, LETTERS AND/OR NUMBERS

### Owner

Emami, Margo Aura INDIVIDUAL UNITED STATES 5103 Seagrove Cove San Diego CALIFORNIA 92130

### Goods/Services

Class Status -- ACTIVE. IC 003. US 001 004 006 050 051 052. G & S: Age spot reducing creams; Anti-aging cream; Anti-aging cream containing a retinoic ingredient not for medical purposes; Anti-aging moisturizer; Anti-aging toner; Anti-freckle creams; Anti-wrinkle creams; Cleansing creams; Cosmetic creams for skin care; Creams for cellulite reduction; Exfoliant creams; Exfoliating pad containing a glycolic ingredient not for medical purposes; Eye cream; Face and body beauty creams; Face and body creams; Face creams; Face creams and cleansers containing benzoyl peroxide for cosmetic purposes; Face creams for cosmetic use; Facial cleaning preparation, namely, salicylic acne cleanser not for medical purposes; Non-medicated acne treatment preparations; Non-medicated anti-aging serum; Non-medicated facial and eye serum containing antioxidants; Non-medicated skin care preparations, namely, creams, lotions, gels, toners, cleaners and peels; Non-medicated skin creams; Non-medicated skin toners; Retinol cream for cosmetic purposes; Skin bronzing creams; Skin care preparation, namely, body polish; Skin care preparations, namely,

chemical peels for skin; Skin care preparations, namely, fruit acid peels for skin; Skin care preparations, namely, skin peels; Skin care products, namely, non-medicated skin serum; Skin clarifiers; Skin cleansers; Skin cleansing cream; Skin lightening creams; Sunscreen creams; Suntan creams; Waterproof sunscreen. First Use: 2012/12/10. First Use In Commerce: 2013/03/09.

### Goods/Services

Class Status -- ACTIVE. IC 005. US 006 018 044 046 051 052. G & S: Acne medications; Acne treatment preparations; Anti-itch cream; Bone cement for surgical and orthopaedic purposes; Botulinum toxin for medical use for use in the treatment of excessive sweating, excessive eye blinking, neuropathy pain, facial wrinkles; Face creams and cleansers containing benzoyl peroxide for medical purposes, namely, the treatment of acne; Gels, creams and solutions for dermatological use; Hormone replacement therapy preparations; Hormones for medical purposes; Medical preparations for slimming purposes; Medicated cosmetics; Medicated creams for treating dermatological conditions; Medicated dermatological preparations and substances; Medicated facial cleansers; Medicated lotions for treating dermatological conditions; Medicated lotions for hyperpigmentation, aging, wrinkles; Medicated make-up; Medicated skin care preparations; Medicated skin care preparations, namely, creams, lotions, gels, toners, cleaners and peels; Medicated skin preparation for use in treating hyperpigmentation, aging, wrinkles; Medicated sun block; Medicated sun screen; Medicated sunscreen; Medicinal creams for skin care; Orgasm creams. First Use: 2012/12/10. First Use In Commerce: 2013/03/09.

### Disclaimer Statement

NO CLAIM IS MADE TO THE EXCLUSIVE RIGHT TO USE "MD" APART FROM THE MARK AS SHOWN.

### **Description of Mark**

The mark consists of the word "AURAE" followed by "MD" in superscript. The word "AURAE" consists of capital "A" followed by capital "U" followed by capital "R" followed by capital "A" followed by capital "E". The "U" and the "R" are connected in the word "AURAE". There is an "MD" in superscript form which consists of the capital "M" followed by capital "D" that is above and slightly to the right of the "E" in "AURAE". The "M" and the "D" are connected in the superscript "MD". There is a leaf design that begins at the cross bar of the first capital "A" in "AURAE" and branches out through the capital "U" angling upwards and continuing until it touches the capital "R" in "AURAE". The word "AURAE" is in solid dark font and the "MD" is in the same font but slightly lighter font. The right side of the leaf design is in a darker shading than the left side of the leaf design.

### **Colors Claimed**

Color is not claimed as a feature of the mark.

### Filing Date

86417900 Print: Jun 14, 2016

2014/10/08

Examining Attorney
FIRST, VIVIAN MICZNIK

**Attorney of Record** 

Shahrzad Emami



### **DESIGN MARK**

### Serial Number

86744360

### Status

REGISTERED

### **Word Mark**

TRIDERMA MD

### Standard Character Mark

Yes

### Registration Number

4959711

### **Date Registered**

2016/05/17

### Type of Mark

TRADEMARK

### Register

PRINCIPAL

### **Mark Drawing Code**

(4) STANDARD CHARACTER MARK

### Owner

GENUINE VIRGIN ALOE CORPORATION DBA TRIDERMA CORPORATION CALIFORNIA 341 N. Delilah Street, #101 Corona CALIFORNIA 92879

### Goods/Services

Class Status -- ACTIVE. IC 003. US 001 004 006 050 051 052. G & S: Non medicated skin therapy creams and ointments. First Use: 1995/07/15. First Use In Commerce: 1995/08/01.

### Goods/Services

Class Status -- ACTIVE. IC 005. US 006 018 044 046 051 052. G & S: Medicated skin creams and ointments for treating diabetic skin, diaper rash, eczema, psoriasis, dandruff, rosacea, bruises, dry skin, scars, acne, foot care, sores, post-surgical, scalp skin care and healing skin. First Use: 1995/07/15. First Use In Commerce: 1995/08/01.

### Disclaimer Statement

NO CLAIM IS MADE TO THE EXCLUSIVE RIGHT TO USE "MD" APART FROM THE MARK AS SHOWN.

### Filing Date

2015/09/01

Print: Jun 14, 2016 86744360

### Examining Attorney LEE, JANET

Attorney of Record
James G. O'Neill

### TRIDERMA MD

Print: Jun 14, 2016 86298315

# **DESIGN MARK**

# Serial Number

86298315

# **Status**

REGISTERED

# **Word Mark**

ANJALI MD

# **Standard Character Mark**

Yes

# Registration Number

4920412

# **Date Registered**

2016/03/22

# Type of Mark

SERVICE MARK

## Register

PRINCIPAL

# **Mark Drawing Code**

(4) STANDARD CHARACTER MARK

### Owner

Butani Group, LLC LIMITED LIABILITY COMPANY MISSISSIPPI 50 Hospital Drive Tylertown MISSISSIPPI 39667

### Goods/Services

Class Status -- ACTIVE. IC 035. US 100 101 102. G & S: Retail store services and mail order services in the field of body care products. First Use: 2010/05/01. First Use In Commerce: 2010/05/01.

### Disclaimer Statement

NO CLAIM IS MADE TO THE EXCLUSIVE RIGHT TO USE "MD" APART FROM THE MARK AS SHOWN.

# Name/Portrait Statement

The name(s), portrait(s), and/or signature(s) shown in the mark identifies Anjali Butani, whose consent(s) to register is made of record.

# **Translation Statement**

The English translation of "Anjali" in the mark is "Divine Offering".

# Filing Date

Print: Jun 14, 2016 86298315

2014/06/02

Examining Attorney NGUYEN, NICOLE A

Attorney of Record Neal Massand

# Anjali MD



SMARRS Facebook

# Health Benefits of Cannabidiol (CBD)



# Health Benefits of Cannabidiol

Cannabis is a profoundly powerful medicine that has been used for thousands of years. As science moves forward, we have been able to really examine just how the cannabis plant affects our body. What we have found is that it offers far more health benefits than previously thought, kind of a cure-all, from pain relever to anti-cancer agent. We wanted to compile some of the well documented health benefits of cannabidiol to help raise awareness for this natural super-drug.

Cannabidiol has actually been found to negate some of the effects of THC (the psychoactive component in







Cannabidiol nas actually been round to negate some of the effects of LHC (the psychoactive component in cannabis). More specifically, cannabidiol helps to prevent the acute memory impairment caused by Tetrahydrocannabinol (THC). [1]

### Vitamin CBD - Antioxidant Benefits of Cannabidiol

We all know how important antioxidants are for our health, and we all know about Vitamin C and Vitamin E. What you probably didn't know, is that cannabidiol is a more powerful antioxidant than either Vitamin C or E. [2]

The powerful antioxidant benefits of cannabidiol are thought to be partially responsible for it's ability to fight chronic



### Cannabidiol for Pain Relief

"Cannabinoids may be superior to opioids in alleviating intractable pathologic pain syndromes." - J. Manzanares

The cannabis plant is widely known for its analgesic properties. There are a few cannabinoids that help to relax muscles and relieve pain, but the most prominent is cannabidiol.

Cannabis extracts have been found to relieve pain even more effectively than opioid painkillers. Opioid pain relievers are widely prescribed for pain, however they pose some serious health concerns and are extremely addictive.

Cannabidiol can be used to help treat acute pain, postoperative pain, chronic pain and neuropathic pain. This has made it a preferred pain management treatment for cancer patients, individuals with multiple sclerosis, migraine sufferers and people with phantom limb syndrome. [3]



### **Neuroprotective Benefits of Cannabidiol**

Marijuana may have a bad reputation, associated with brain-dead pot-heads and lazy slackers. Contrary to this common misconception, cannabidiol actually helps protect our brain and cognitive function.

Inflammation is a leading contributor to virtually all known diseases, neurodegenerative disorders included. Because cannabidiol acts as a natural anti-inflammatory as well as a potent antioxidant, it is a very promising treatment option for all neurodegenerative disorders. [4]





USE AVB

### **Anti-Cancer & Anti-Tumor Benefits**

Researchers have been searching for a cure for cancer for decades, looking for a treatment option that doesn't ravage the entire body. After spending well over \$100 billion on cancer research, we still don't have a cure. [5] But the answer may have been hidden in plain site, deep inside the cannabis plant.

Cannabidiol has been found to activate apoptotic pathways in breast cancer cells. Researchers are now exploring the cancer-fighting potential of cannabidiol and the initial results are very promising. [6]

CBD is an antineoplastic agent, meaning it inhibits the growth and spread of tumors. Making it a promising potential treatment option for cancer patients of all kinds.



### Improved Fracture Healing & Bone Strength

Alright, cannabidiol is a powerful sleep aid, pain reliever, yields serious benefits for our cognitive health and even



ningni, cannabraron a poweriui sieep ard, pain reliever, yreids serious benefits for our cognelps fight cancer. As if that wasn't remarkable enough, it even helps us heal broken bones.

Don't expect miraculous healing powers like Wolverine, but one study shows that CBD lead to an improvement in fracture healing, playing a critical role in collagen cross-linking. Meaning it helped fractured bones repair themselves more effectively. [7]





# Cannabidiol May Help Treat...

Stated above, cannabidiol is a powerful antioxidant and anti-inflammatory, making it extremely beneficial for the treatment of almost every disease we know of. Inflammation and oxidative damage are two of the biggest contributors to disease progression and any health disorder. By fighting both, CBD already proves itself a beneficial treatment option.

### Cancer

The antineoplastic properties found in cannabis have been found to inhibit cancerous development and tumor growth. Stimulating apoptotic pathways in the body allows the immune system to effectively destroy cancerous cells.

### **Multiple Sclerosis**

MS causes severe chronic pain in sufferers. The body's immune system actually attacks nerve endings, resulting

Cannabidiol has been found to relieve the chronic pain brought on by Multiple Sclerosis. Although it is illegal in many countries, estimates suggest that between 10% and 30% of MS patients in Europe smoke marijuana to help ease the pain and disabling symptoms of MS, [3]

### Seizures and Epilepsy

Much remains to be learned about cannabidiols anti-seizure effects, but researchers agree they are present and

Much remains to be learned about cannabidiols anti-seizure effects, but researchers agree they are present and powerful. This makes cannabidiol an extremely promising treatment option for epilepsy. [8]

One mother in Calgary is fighting a hospital to get her 9-year old's medical marijuana prescription renewed. Her daughter suffered from severe epileptic episodes in her earlier years, averaging 30° seizures per day, some days it was more than 100. Since she started cannabis oil treatment, she hasn't suffered a seizure in over 18-months.

Sadly the ethical issues surrounding marijuana based treatment still flourish. The hospital is denying her medical marijuana renewal due to a lack of evidence that marijuana is a safe treatment option for her child.

### Depression

CBD induces antidepressant-like effects in mice according to researchers. [9] THC also possesses antidepressant-like qualities, leaving users feeling uplifted, euphoric and relaxed.

### Schizophrenia

Current research suggests that cannabidiol is an effective, safe and well-tolerated alternative treatment for schizophrenia. It yields anxiolytic and anti-psychotic benefits that help patients with schizophrenia as well as a number of other psychotic conditions, including bipolar disorder. [10]

### Diabetes

Cannabidiol treatment "significantly reduces the incidence of diabetes" in mice. From 86% in non-treated mice to only 30% in mice treated with CBD. Results indicate that cannabidiol can inhibit and delay destructive insultius and inflammatory cytokine production. [11]

### Cardiovascular Disease

The same diabetic benefits of CBD are also responsible for its cardiovascular benefits. CBD attenuated myocardial dysfunction, cardiac fibrosis, oxidative stress, inflammation, cell death and interrelated signaling pathways. [12]

### Cannabis, Mother-Nature's Super-Medicine

The astounding number of medical benefits associated with the cannabis plant make it impossible to ignore any longer.

Marijuana prohibition in North America has slowed research significantly. Other countries have continued to study the medical applications for the cannabis plant, but as cannabis laws relax in America the number of studies are growing significantly.

The stigma attached to ingesting cannabis is still strong however. Even though cannabidiol posses no psychoactive effects, it too has been demonized by health organizations for decades.

We have an optimistic attitude when it comes to cannabis medical research. Studies show us that it is a relatively harmless medicine? recreational infoxicant. With states like Colorado and Washington spearheading the cannabis revolution, many fears have been put to rest. For example, the fear that legalizing medical cannabis would cause teen marijuana use to skyrocket, this has been disproved.

Cannabis has brought in tens of millions in tax revenue over the past two years, going towards our schools, infrastructure and public services.

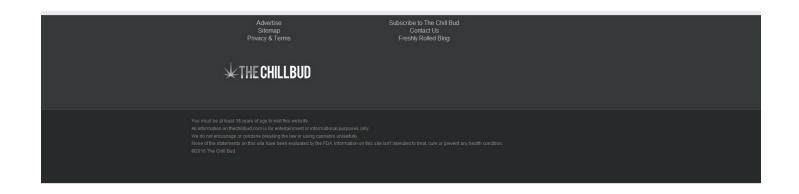
Let's stop ignoring the facts and harness the power of the cannabis plant to help treat the sick and stimulate our economy.

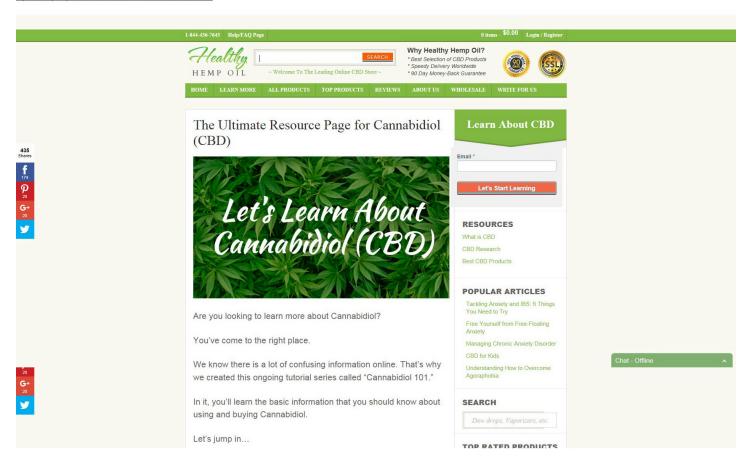
### Comments

### More From The Chill Bud

Cannabis Reduced Seizures by 36.5% In Latest Study Vaginal Cannabis Suppositories, The Next Big Thing in Menstrual Cramp Relief PremiumcBD Capsules, As Good As it Gets IG Cannabis Strains High In Cannabidiol (GBD) Understanding the Different Types of Cannabis Oil and How They're Made BBC Reports Cannabis Vaping Teen Is Recovering in Hospital Father Loses Daughter and Is Jailed For Treating Her With Cannabis Oil Cannabinoids and Terpenes in Cannabis – Boiling Points and Benefits Scientists Just Created Yeast That Produces THC and CBD Cannabis for Pets – Benefits and Dangers

July 19th, 2015 |







# 1. Cannabidiol Basics

If you're new to cannabidiol, you'll want to start here.

In this section you'll discover topics like benefits, current research, legal status, history, and many more.

What is CBD (Cannabidiol)?

CBD vs THC: What is the Difference?

What is Cannabidiol's Legal Status?

How Does CBD Work?

Hemp vs Marijuana: What's the Difference?

What's the Difference Between CBD Oil from Medical Marijuana and CBD Oil from Industrial Hemp Oil?

# 2. Cannabidiol Buying Guide



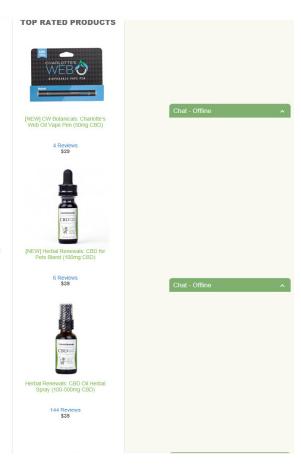
We know that choosing the right CBD product can be confusing at first.

That's why we created this easy to read quide.

In it you'll discover the different types of CBD products, the most popular brands,

and some of our most popular products. Check out our Buy Cannabidiol Guide here.

### 3. Latest Cannabidiol News











J. Latest Califiadiaioi 110115

Our blog showcases the latest news in the ever growing cannabidiol industry. See as CBD oil gets mentioned by Michael Pollan, CNN's Sanjay Gupta and more!

To read the latest news on CBD head to our blog here.

# What is CBD (Cannabidiol)?

"So what is CBD (Cannabidiol), anyway?" is a question we are commonly asked.

Cannabidiol, also known as CBD, is a natural substance that has recently come into the spotlight for a number of



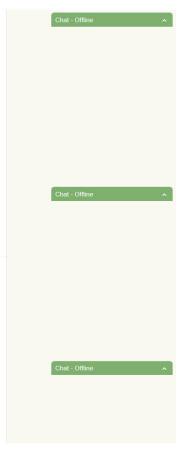
It is a relatively new food supplement that is still being researched, and while the initial results are promising, there is a lot of doubt, misinformation, and sheer confusion surrounding it.

Recently, CBD oil has become an accepted means of relaxation, and the substance's popularity is rising fairly rapidly.

As the use of CBD oil is very new, there are still significant gaps in what we know about its effects. While we can confidently say the substance is safe and legal, its exact benefits are still an issue of hot debates and fervent research.

In this article, we are putting the most important facts surrounding Cannabidiol together to cut through some of the confusion and





give you a clearer picture about this new cannabinoid known as CBD. This article covers:

The benefits of CBD Where does CBD come from? CBD's legal status (and the confusion surrounding it!)

Finally, we have included our "Cannabidiol Definitions" section to help you make sense of all the technical terms and jargon surrounding CBD.

### What Are the Benefits of CBD?

Numerous people are reporting success in using CBD to reach a desired state of calm and relaxation.

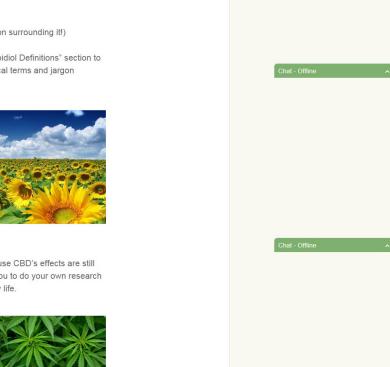
Strictly as a chemical substance, CBD also has strong antioxidant properties, a fact that so far has been largely ignored by the broader food supplements industry.

As each person is different, and because CBD's effects are still under study, we strongly encourage you to do your own research before incorporating CBD to your daily life.

### Where Does CBD Come From?

CBD is extracted and separated from specific varieties of cannabis, often known as hemp. Chemically, CBD is one of 85 chemical substances known as cannabinoids, which are all found





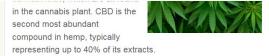












However, here is where the confusion starts.

Unfortunately, the most abundant constituent of cannabis is the cannabinoid known as THC, an intoxicating and illegal substance that is responsible for causing marijuana users to get "high."

While CBD is completely separated and isolated from THC and CBD cannot get you "high," there is still a lot of stigma as many people tend to mistake CBD for THC. These fears, though unfounded, are understandable to an extent, especially since the terminology surrounding CBD can be very confusing.

Nonetheless, it is impossible to get "high" by smoking or ingesting CBD-high hemp (that has only traces of THC), as it is also impossible to get high by consuming CBD oil products (that contain virtually no THC).

CBD is extracted in oil form and is often found mixed in hemp oil extracts in varying concentrations.

### Is Cannabidiol Legal?

Yes, CBD is legal worldwide (a controlled substance in Canada alone). As we've seen above, there is a lot of misinformation surrounding CBD, partially because its chemical properties are poorly understood and partially because of its close resemblance to THC.

Until relatively recently (1980s), scientists believed that CBD was a natural precursor to the formation of THC, and since THC was a strictly controlled substance back then (it still is), it only followed



that CBD should be equally strictly regulated.

However, CBD is actually unrelated to the chemical chain that results in THC. They share some characteristics but are created via different paths. Again, unlike THC, CBD is considered a legal cannabinoid and is safe to consume in any amount and

### **Cannabidiol Definitions**

We understand that there are some confusing terms related to Cannabidiol, so we wanted to take the time to explain them to you. Below is a list of the most important terms to understand related to Cannabidiol:

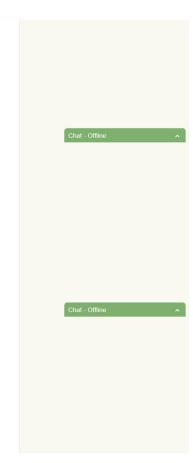
Cannabis – A type of flowering plant that includes three distinct variations: Cannabis ruderalis, Cannabis indica, and Cannabis sativa. Cannabis has a wide range of industrial and medical applications. It has been used since antiquity for its sturdy fiber, for oils, and for medicinal purposes. However, it has also been used as a recreational drug, a fact that renders the cultivation of cannabis strictly regulated because of some variations including high concentrations of THC.

Hemp – Hemp refers to the high-growing varieties of cannabis that are grown to be specifically used for fiber, oil, and seeds. These are then refined into numerous products including wax, resin, cloth, pulp, paper, rope, fuel, and hemp oil.

Cannabinoids – A very diverse chemical family that includes natural as well as artificially created substances. Different cannabinoids have widely varied effects, with some cannabinoids proven to have soothing and relaxing properties

CBD – A naturally occurring cannabinoid, and the second most abundant constituent of the Cannabis plant. CBD is legal and safe to consume, yet has long been in the shadow of THC.

and others classified as illegal drugs.











THC – The most abundant constituent of the cannabis plant and a strongly psychoactive cannabinoid, THC is responsible for getting "high" from smoking marijuana and, as a result, its production and usage are strictly regulated.

Psychoactive – Any chemical substance that can enter the brain from the bloodstream and directly affect the central nervous system is considered psychoactive. Many psychoactive substances have medical applications (such as anesthetics, psychiatric drugs, etc.), but some of these substances are used solely for recreation, causing dangerous side effects and addiction.

Intoxicating – Any substance that can cause you to lose control of your faculties and alter your behavior is considered intoxicating. Almost all illegal drugs have intoxicating properties, although worldwide most intoxication cases are attributed to alcohol. Intoxication can be caused by substances that directly affect the brain (i.e., psychoactive) or by indirectly causing damage to your organism (i.e., through toxicity, hence the term)

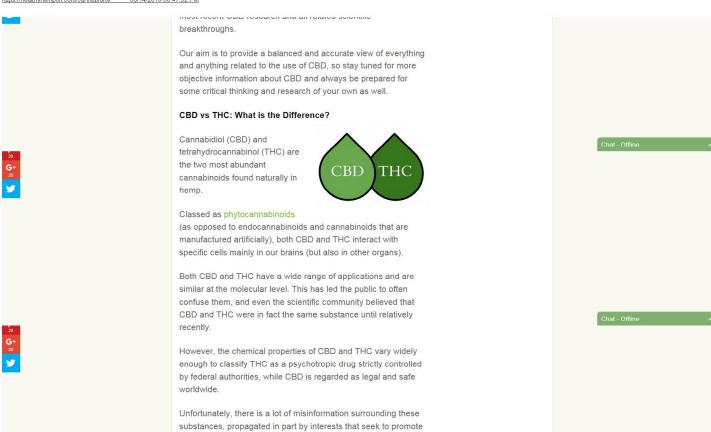
### Closing Words / What Makes CBD Different

In today's world, there are countless supplements on the market. Yet, even as a newly popularized supplement, CBD stands out as a naturally calming and soothing. In addition, scientists are staying open to the possibility of wider applications of CBD in the near future.

For many people, CBD products are becoming a relaxing addition to their daily lives. However, since each person's needs are different, we always encourage you to do your own research to see if CBD oil is right for you.

As we strive to be the most consumer-focused provider of CBD oil in the market, we will be creating more articles to point out the most recent CBD research and all related scientific





one substance over the other. In this article, we will give you the







lowdown on some scientific facts about both CBD and THC, explaining objectively and in simple terms the differences between CBD and THC.

# CBD vs THC in Clinical Application CBD

Both CBD and THC interact with cells within our bodies by activating the cannabinoid receptors. Without venturing too deeply into technical terms, we can say that these receptors are responsible for transmitting signals within our bodies, causing different physiological effects.

Some cannabinoids are capable of desirable effects (they are beneficial to us). Others cause undesirable psychotropic effects in our bodies (such as getting "high," or causing depression, etc.), and a few of these substances cause both desirable and undesirable effects.

Currently, there are no documented studies that show undesirable effects from CBD, which is why this particular cannabinoid is legal worldwide. However, there are many studies showing CBD to cause only desirable effects or no effects at all. (Not only that, but CBD has also been shown to protect against the negative effects of THC).

It is important to point out that research is still underway for many applications of CBD.

### THC

THC was the first phytocannabinoid that was discovered and has been much more extensively researched than CBD.

We know with fairly high certainty that THC is strongly psychoactive and can be intoxicating even in small amounts. This means that THC can alter your behavior and cause you to lose control of your faculties, properties that make it a popular (illegal)











recreational drug in the form of marijuana.

Nonetheless, THC has desirable medical applications and has been shown to be effective as a moderate-strength analgesic (a type of drug that offers relief from pain) and an effective form of treatment for the symptoms of "serious" diseases including AIDS and for cancer patients undergoing chemotherapy.

These invaluable properties of THC have given rise to the use of marijuana for legal medical purposes. Medical marijuana is safe when prescribed by a doctor and can significantly improve the quality of life for many people suffering from serious and/or chronic diseases.

### What Do Scientists Say?

Overall, it is generally accepted that CBD is safer than THC for a number of reasons. There have been certain studies that found statistically significant correlations between long-term use of THC and certain psychiatric disorders, including schizophrenia, depression, and psychosis.

However, we must note here that in scientific studies such as these, correlation does not imply causation; that is, the usage of THC might be linked to psychiatric disorders without necessarily being that root cause of them. (Much like lighters are linked to smoking, but possession of a lighter does not necessarily mean you are a smoker.)

As we have also seen above, CBD is considered to have wider applications than THC. Since CBD has been much less studied than THC, scientists assume that there are many new applications of CBD that haven't yet been discovered. On the other hand, THC's applications are more or less completely explored by now due to all the research on medical marijuana over the past decade.









### So What's Better, CBD or THC?

The CBD vs THC debate is something that often crops up in the circles of cannabis users, and it mainly stems from misinformation that surrounds these substances.

Based on what we've seen above, we can answer the question by saying that CBD and THC are so different that it's difficult to compare them directly. But while THC can be abused as a drug, CBD is safe and has no recreational applications. In fact, many misinformed people, along with many recreational marijuana users, often brand CBD as "useless" because it cannot get them

Like most things in life, the usage and properties of CBD and THC aren't black and white. It's hard to label THC useless when it has so many documented medical benefits, and you cannot just blindly trust CBD as it is still possible (though unlikely) for scientists to find some side effects with its long-term use.

However, there is so much more to both CBD and THC than just THC's psychoactive properties that it is a shame not to explore their applications and learn the truth about them, especially since they are both being used nowadays to better the lives of countless people on a daily basis. Science is an evolving process and it pays to stay up to date, especially on new industries like CBD.

### How Does CBD Work?









HealthyHempOil.com, we are frequently asked, "How does CBD work?"

It's no surprise that it does work — but many people want to know "how," and the real reason might surprise you.

In this article, you'll discover how CBD actually works with your body and not against it (like some synthetically made medications).

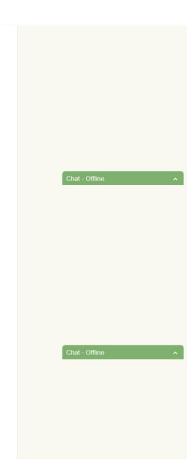
First off, you should know the basics of what CBD is. We cover this in our "What is CBD?" article, but as a refresher, you should know what a cannabinoid is...

### What is a Cannabinoid?

Simply put, cannabinoids are naturally occurring compounds found in the cannabis plant. There are dozens of compounds including Cannabidiol (CBD), THC, and a host of other cannabinoids. Together they are responsible for the benefits and drawbacks to medical marijuana and industrial hemp-based products.

Technically, CBD and its sister cannabinoid compounds are classified as phytocannabinoids, which means that they're derived from plants. But there are also several other types of cannabinoids you should know about too.

For example, the cannabinoids produced within the body's endocannabinoid system are known as endocannabinoids (such as arachidonoylethanolamine, virodhamine, and many others). There are also cannabinoids manufactured via chemical reactions in laboratories, known as synthetic cannabinoids.







As you'll see later, each type of cannabinoid interacts with the body in different ways. So now that you understand what a cannabinoid is, how does CBD work with your body?

Our Cannabinoid Receptors and the Endocannabinoid System

Here's the second half of the equation. You see, your body actually has areas that are made specifically for cannabinoids — they are called cannabinoid receptor sites.

These sites make up the endocannabinoid system, which is responsible for numerous physiological and mental processes that occur naturally within the body.

As we just stated, the endocannabinoid system includes a number of specialized cell receptors in the brain and in various other organs throughout the body.

These receptors fall into two types: CB1 and CB2. CB1 receptors are found mainly in the brain (but also in the liver, kidneys, and lungs), while CB2 receptors are found mainly in the immune system.

Here's the fun part — cannabinoid substances actually bind with these receptors to coordinate various functions across the body.

### What Kinds of Effects Can Cannabinoids Have on the Body?

As we discussed above, there are several types of cannabinoids. Even within phytocannabinoids, there are wide ranges of compounds and effects that we are still learning about.

Some of these cannabinoids interact strongly with one or both CB receptors, causing various effects, from regulating mood and helping us concentrate, to causing euphoric effects and feeling "high" (like THC). Other cannabinoids, like CBD, have fewer direct







effects on the endocannabinoid system (keep this in mind as you read the next section).

To recap: Cannabinoids represent a diverse class of chemical compounds that can be very different from each other. Their only common feature is that they all act on the body's cannabinoid receptors, either directly or indirectly.

### External vs. Internal Cannabinoids

The endocannabinoid system works mainly with our the body's own cannabinoids, which are produced internally. For example, arachidonoylethanolamine (AEA) is produced within the body and is thought to regulate several functions.

However, when cannabinoids are taken externally, it's difficult to distinguish between the clinically desirable effects and the therapeutically undesirable effects of various phytocannabinoids. This is because cannabinoid receptors send a variety of signals that often interconnect to coordinate the body's functions, so it's hard to tell them apart.

For example, CB1 receptors send signals that regulate senses, while cannabinoids that interact with CB2 receptors can at the same time affect gastrointestinal response and peripheral nervous system sensitivity.

See why external cannabinoids (like CBD) can be a little more complicated?

Also, since people often take numerous different cannabinoids together (for example, using medical marijuana), it is hard to attribute specific effects to specific cannabinoids. That's because unprocessed cannabis includes more than 60 different types of cannabinoids, including CBD and THC.









In addition, some cannabinoids interact synergistically, producing unique effects that are not found when using them individually. For example, CBD inhibits THC's psychotropic effects when the two are taken together. However, CBD does this (and produces many other effects) without directly interacting with the cannabinoid receptors. At first, scientists thought there was a third type of CB receptor just for Cannabidiol, but the answer was far more interesting and revealing.

### How Does CBD Work?

We just stated that CBD is fairly unique as far as cannabinoids go, because it does not seem to interact directly with either the CB1 or CB2 receptors. So what does it do if it's not interacting directly with our receptors?

Here's where it gets good...

Cannabidiol has a particularly low potential for binding with the CB1 and CB2 receptors, but instead acts as an antagonist of the receptors' agonists. That's a mouthful.

In layman's terms, this means that CBD keeps the receptors working at optimal capacity and helps the function of all other cannabinoids, including the body's own endocannabinoids.

Still with me? If you want to know more about the effects, read below, but if you're often put off by scientific words, you might want to skip down to the conclusion...

### What Effects Does CBD Have?

Now to understand CBD's function within the body, we need to examine how receptors like CB1 and CB2 interact with other chemical compounds. But first you'll need to know these three terms...

Anonists – chemicals that hind to a recentor and activate it to











Agonists – chemicals that bind to a receptor and activate it to produce a biological response.

Inverse agonists – chemicals that bind to the same receptor as agonists but produce the exact opposite result.

Antagonists – the complete opposite of agonists as they inhibit

Antagonists – the complete opposite of agonists as they inhibit or dampen the functions of a receptor.

The indirect interactions of CBD with the endocannabinoid system has many effects, some of which surprised scientists and are still being researched. Some of CBD's functions include:

Effectively increases CB1 density, amplifying the effects of all cannabinoids that bind to CB1 receptors.

Acts as a 5-HT1a receptor agonist in the brain.. This means that CBD has calming and soothing effects such as some potent analgesics, but without the side effects.

Acts as inverse agonist of CB2 receptors, effectively reducing the effects of cannabinoids that make CB2 receptors less responsive.

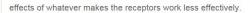
Acts as an antagonist for the putative GPR55 receptor, an element of the endocannabinoid system that is still being researched. (It is suggested that GPR55 may be a third type of cannabinoid receptor altogether.)

Between the above functions, most of CBD's observed effects are well explained. However, scientists are still unclear about how some effects of Cannabidiol are actually occurring. The most possible explanation is via the hypothetical GPR55 receptor, or through more indirect and synergistic effects that still await discovery.

### Conclusions

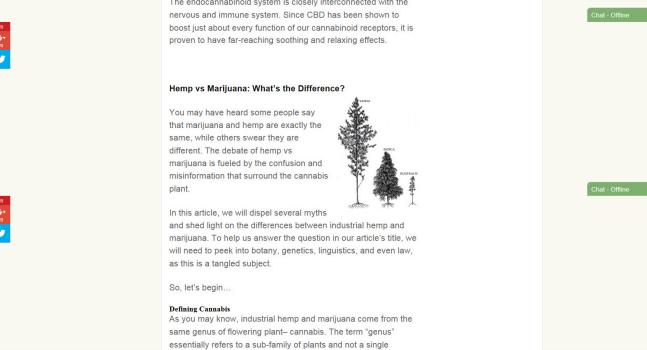
Contrary to how most cannabinoids function, CBD interacts very mildly with the cannabinoid receptors themselves and instead either helps other cannabinoids to be better absorbed or stops the





The indirect nature of CBD's effects have made it difficult for scientists to pinpoint its exact effects up to now, but many positive effects of this unusual phytocannabinoid are still being studied.

The endocannabinoid system is closely interconnected with the













species. This means that there may be multiple types of the cannabis plant, which are all cannabis but have remarkable differences. So, in terms of scientific classification, multiple species can exist within a single genus, and that's exactly the case with cannabis.

### The Different Growing Varieties of Cannabis

The genus of cannabis is thought to include three distinct species of the cannabis plant, namely Cannabis sativa, Cannabis indica, and Cannabis ruderalis.

Cannabis sativa is the most common strain of cannabis. It has been cultivated throughout history for a number of purposes, including the production of seed oil, food, hemp fiber (for clothes and rope), medicine, and even recreation.

Cannabis ruderalis is a species native to Russia that flowers earlier and is able to withstand harsher conditions than Cannabis sativa and Cannabis indica. It is the hardiest of the three, but it is relatively poor in terms of cannabinoids as ruderalis has a lower THC content than either sativa or indica.

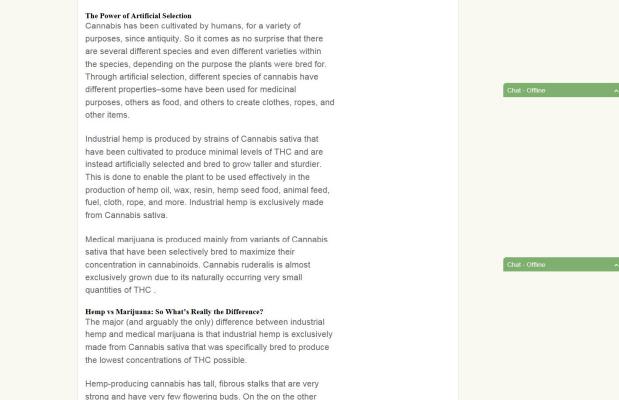
Cannabis indica was first discovered in India and is a cannabis species that is described as shorter and bushier than sativa. Problems with botanical taxonomy have led some scientists to still doubt the existence of Cannabis indica as a distinct species of cannabis.

In nature, Cannabis ruderalis typically has the lowest levels of THC, Cannabis sativa has a higher level of THC than it has CBD, and Cannabis indica has a higher level of CBD than it has THC. However, since man has been cultivating cannabis (and especially Cannabis sativa) for thousands of years, the effects of artificial selections have led to several different types of cannabis even within the same species, depending on the purpose the



cannabis was cultivated for.

strong and have very few flowering buds. On the on the other hand, marijuana strains are short, bushy, and have high amounts









of THC. In fact, industrial hemp and medical marijuana are so distinctively different that most lay people wouldn't be able to tell that they belong to the same genus of plants if they encountered them in the wild!

While marijuana is bred with the only purpose of maximizing its THC concentration, industrial hemp always has trace amounts of THC and naturally occurring high amounts of CBD (it has the highest CBD/THC ratio of all cannabis strains, even Cannabis ruderalis) This means that industrial hemp's chemical profile makes it incapable of inducing intoxicating effects and getting you "high" from ingesting it.

### **Industrial Hemp Supplements**

Since industrial hemp is naturally rich in CBD and has been bred to have only trace amounts of THC, many people today are turning to industrial hemp products as an alternative to medical marijuana. Medical marijuana is not legal in all states in the US and many countries worldwide, while products made from industrial hemp can be a safe and legal alternative. You can get many of the same beneficial effects of medical marijuana from industrial hemp products without getting "high."

Industrial hemp products are completely safe, as they are made according to federal standards and are produced in FDA-registered facilities within the US. If you are interested in seeing more, please check out our line of premium industrial hemp products.

What's the Difference Between CBD Oil from Medical Marijuana and CBD Oil from Industrial Hemp Oil?

Most of our readers know you can get Cannabidiol (CBD) products made from industrial





https://healthyhempoil.com/cannabidiol/ 06/14/20	16 08 47:32 PM	
	hemp. Many of you also know that you can get CBD products from medical marijuana.  So what's the difference? Yes, medical marijuana can contain any	
	level of THC whereas CBD products from industrial hemp contain negligible amounts. But what about the CBD?	
% G+	Is the CBD from industrial hemp the same as the CBD from medical marijuana? In this article we'll explore what we know about these substances.	Chat - Offline
<b>y</b>	Cannabidiol is Still Cannabidiol Here's the main concept to understand. In regards to its chemical composition, which is precisely known to scientists, CBD remains unchanged regardless of which plant produces it.	
	To further expand on this, the term "Cananbidiol" refers by definition to this chemical substance: http://en.wikipedia.org/wiki/Cannabidiol	
'20 <b>G+</b> 20	There is no room for different interpretations and the substance is just that. Any single difference in the molecular composition would mean it's no longer Cannabidiol but another substance (again, by definition). This is pure chemistry and allows no room for ambiguity.	Chat - Offline
<b>∀</b>	However, the main question people have is not just about the CBD compound, which is constant from plant to plant, but the actual difference in CBD oil from various plants.	

What Goes into Cannabidiol Oil?

We've established the fact that naturally occurring CBD is the same CBD regardless of the plant it came from. However, CBD and CBD oil are not in fact the same thing. As we've seen above,







CBD is a chemical compound with sharply defined characteristics, while CBD oil is a mixture of various natural substances as they are derived from the plant of cannabis.

The production of hemp oil involves extracting the fatty acids from the stalks of the cannabis plant. Within these fatty acids fat-soluble substances can be found, and as cannabinoids are fat-soluble, they come out of the plant, dissolved in the oil.

To make this more concrete, let's use an example here. This is a high-CBD hemp oil product made from industrial hemp. It has a concentration of CBD between 18% and 24%. This means that it has 18%–24% parts CBD dissolved in the actual oil, which is composed by other substances. So 18%–24% is pure CBD, and the rest are hemp oil extracts and other fatty acid substances.

### Medical Marijuana vs. Industrial Hemp CBD Oil

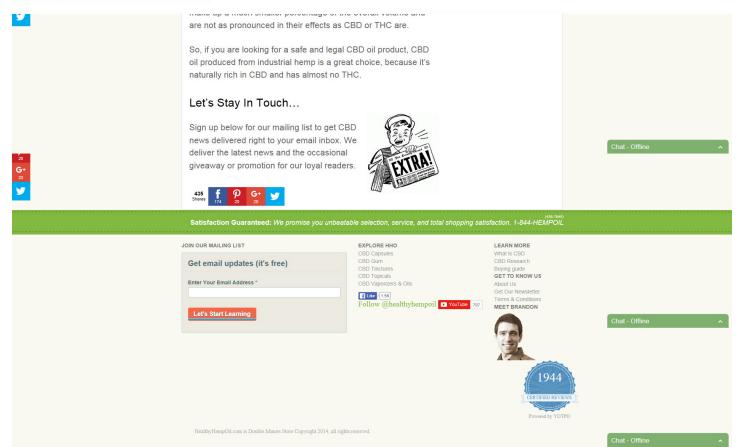
The main point we want to make here is that CBD is always CBD, but CBD oil from hemp is not the same as the oil that is extracted from medical marijuana.

The main difference between the two remains that CBD oil from medical marijuana can contain any varying amount of THC. As a result, this type of CBD oil is considered a Schedule I drug and is not legal in many states in the US and countries worldwide.

As industrial hemp is naturally high in CBD and contains only traces of THC, the hemp oil produced from it is safe and non-psychotropic. This CBD oil is actually a lot different than the oil produced by extracting the fatty acids of the cannabis plants that are bred for soothing purposes.

Besides the difference in THC concentration, the CBD oils will also have differing amounts of other cannabinoids. But those make up a much smaller percentage of the overall volume and

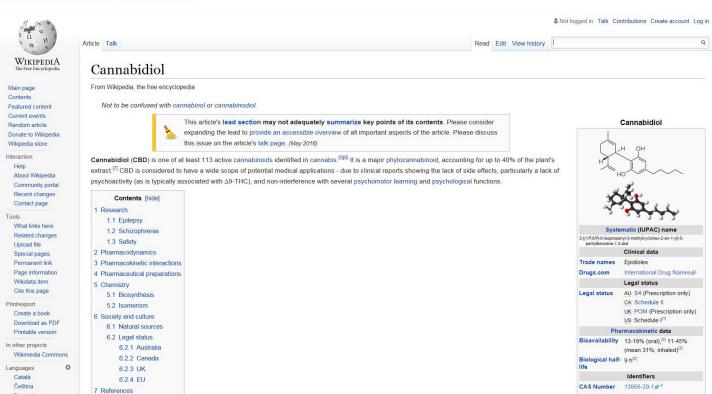




8 External links

Ελληνικά

Español



ATC code

PubChem

None

CID 644019@

Français Italiano Latina Magyar Nederlands Polski Português Русский Srpskohrvatski / српскохрватски Suomi Svenska

Tagalog 

### Research [edit]

Drayet syndrome is a rare form of epilepsy that is difficult to treat. It is a catastrophic form of intractable epilepsy that begins in infancy. Initial seizures are most often prolonged events and in the second year of life other seizure types begin to emerge. It a number of high profile and anecdotal reports have sparked interest in treatment of Drayet syndrome with cannabidiol [9]

Some cannabis/hemp extract preparations containing CBD are marketed as dietary supplements and claim efficacy against Dravet Syndrome. One such preparation is marketed under the tradename Charlotte's Web Hemp Extract.[10][11] Blended/suspended in oil, the supplement contains 0.3% THC[12] (see Legal status below classified as hemp)

GW Pharmaceuticals is seeking FDA approval to market a liquid formulation of pure plant-derived CBD, under the trade name Epidiolex (containing 99% cannabidiol and less than 0.10%  $\Delta$ 9-THC) as a treatment for Dravet syndrome. Epidiolex was granted fast-track status and is in late stage trials following positive early results from the drug. [9][13][14][15][16

A 2014 review stated that cannabidiol has been claimed, anecdotally, to be of benefit in helping people with epilepsy. Information in the review stated that there is no established mechanism of action and the lack of high-quality evidence in this area precluded conclusions being drawn.<sup>11</sup>

A newer 2016 review in The New England Journal of Medicine states that since 2013, data has been collected on patients with severe epilepsy (Dravet's syndrome and the Lennox-Gastaut syndrome). Among 137 patients treated with Epidiolex (qualifies chemically as hemp, see Legal status below), the median reduction in the number of seizures was 54%.<sup>[18]</sup>

### Schizophrenia [edit]

A 2016 Leweke et al. review stated that THC-dominant (skunk-like) cannabis carries the highest risk for psychotic disorders and an increased risk of psychosis. In contrast, cannabidiol (CBD) produced the reduction of psychotic symptoms due to a significant increase of anandamide levels. This supports the hypothesis that cannabidiol exerts its antipsychotic properties by a moderate inhibition of the FAAH enzyme (which is known to break down anandamide). Data on the antipsychotic effects of cannabidiol in schizophrenia is still limited, but with promising initial results and a lack of side-effects. With current trials limited to 6 weeks of treatment at maximum, information on long-term efficacy and tolerability is not available yet. [19]

CBD clearly reversed synthetic THC (Nabilione induced) psychoactive effects. CBD had opposite effects to THC on activation of the striatum, prefrontal cortex and medial temporal cortex.[20]

### Safety [edit]

CBD safety in humans has been studied in multiple small studies, suggesting that it is well tolerated at doses of up to 1500 mg/day (p.o.) or 30 mg (i.v.).[21]

### Pharmacodynamics [edit]

Cannabidiol has a very low affinity for CB<sub>1</sub> and CB<sub>2</sub> receptors but acts as an indirect antagonist of their agonists. [22][23] While one would assume that this would cause cannabidiol to reduce the effects of THC, it may potentiate THC's effects by increasing CB<sub>1</sub> receptor density or through another CB<sub>1</sub>-related mechanism. [24] It may also extend the duration of the effects of THC via inhibition of the cytochrome P-450-3A and 2C enzymes. [25]

IUPHAR/BPS	4150₽	
Chem Spider	24593618	
UNII	19GBJ60SN5₽ ⁴	
	Chemical data	
Formula	C <sub>21</sub> H <sub>30</sub> O <sub>2</sub>	
Molar mass	314.4636	
SMILES		[show
InChl		show
	Physical data	
Melting point	66 °C (151 °F)	
Boiling point	180 °C (356 °F) (range: 160–180 °C) <sup>[4]</sup>	

Part of a series on	
Cannabis	
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Arts · Culture	[show]
Chemistry	[show]
Consumption	[show]
Economics	[show]
Effects	[show]
Forms	[show]
Law	[show]
Regional	[show]
Variants	[show]
Related	[show]
★ Cannabis portal  Medicine portal	
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Recently, it was found to be an antagonist at the putative new cannabinoid receptor, GPR55, a GPCR expressed in the caudate nucleus and putamen [28] Cannabidiol has also been shown to act as a 5-HT<sub>1A</sub> receptor partial agonist, [27] an action which may be involved in its antidepressant, [28][29] anxiolytic, [29][30] and neuroprotective [17][32] effects. Cannabidiol is an allosteric modulator of μ and δ-opioid receptors. [33] Cannabidiol's pharmacological effects have also been attributed to PPAR-γ receptor agonism and intracellular calcium release. [7]

Research suggests that CBD may exert some of its pharmacological action through its inhibition of FAAH, which may in turn increase the levels of endocannabinoids, such as anandamide, produced by the body. 17 It has also been speculated that some of the metabolites of CBD have pharmacological effects that contribute to the biological activity of CBD 134



The bud of a Cannabis sativa flower coated with trichomes bearing cannabidiol and other cannabinoids

### Pharmacokinetic interactions [edit]

There is some preclinical evidence to suggest that cannabidiol may reduce THC clearance, modestly increasing THC's plasma concentrations resulting in a greater amount of THC available to receptors, increasing the effect of THC in a dose-dependent manner. [35][36] Despite this, the available evidence in humans suggests no significant effect of CBD on THC plasma levels. [37]
Multiple studies have shown that the purported negative cognitive side effects caused by THC can be miligated by regular CBD consumption. [36] These findings botster the theorized pharmacokinetic

# interactions that cannabidiol reduces THC clearance. Pharmaceutical preparations [edit]

Nabiximols (USAN, trade name Sativex) is an aerosolized mist for oral administration containing a near 1:1 ratio of CBD and THC. The drug was approved by Canadian authorities in 2005 to alleviate pain associated with multiple sclerosis. [39]40[41] Epidiolex, a drug with cannabidiol as its active pharmaceutical ingredient, received orphan drug status in the United States for treatment of Dravet syndrome in July 2nts [42]

Epidiolex is an oil formulation of CBD extracted from the cannabis plant undergoing clinical trials for refractory epilepsy syndromes. [43]

### Chemistry [edit]

Cannabidiol is insoluble in water but soluble in organic solvents such as pentane. At room temperature, it is a colorless crystalline solid. [44] In strongly basic media and the presence of air, it is oxidized to a quinone. [45] Under acidic conditions it cyclizes to THC. [46] The synthesis of cannabidiol has been accomplished by several research groups. [47]40[46]

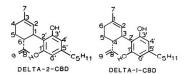
### Biosynthesis [edit]

Cannabis produces CBD-carboxylic acid through the same metabolic pathway as THC, until the last step, where CBDA synthase performs catalysis instead of THCA synthase. [50]

Taura, F., Sirikantaramas, S., Shoyama, V., Yoshikai, K., Shoyama, Y., Morimoto, S. (2007). "Cannabidiolic-acid synthase, the chemotype determining enzyme in the fiber type Cannabis sativa". FEBS Letters 581 (16): 2929–2934.

Isomerism [edit]

### FORMAL NUMBERING TERPENOID NUMBERING



Formal numbering		Terpenoid numbering				B		
Short name	Chiral centers	Full name	Short name	Chiral centers	Number of stereoisomers	Natural occurrence	Convention on Psychotropic Substances Schedule	Structure
∆ <sup>5</sup> -cannabidiol	1 and 3	2-(6-isopropenyl-3-methyl-5-cyclohexen-1-yl)-5- pentyl-1,3-benzenediol	Δ <sup>4</sup> -cannabidiol	1 and 3	4	No	unscheduled	H <sub>2</sub> C CH <sub>3</sub> H
∆ <sup>4</sup> -cannabidiol	1, 3 and 6	2-(6-isopropenyl-3-methyl-4-cyclohexen-1-yl)-5- pentyl-1,3-benzenediol	$\Delta^5$ -cannabidiol	1, 3 and 4	8	No	unscheduled	H <sub>2</sub> C <sub>1</sub>
∆³-cannabidiol	1 and 6	2-(6-isopropenyl-3-methyl-3-cyclohexen-1-yl)-5- pentyl-1,3-benzenediol	$\Delta^6\text{-cannabidiol}$	3 and 4	4	?	unscheduled	H,C CR

$\Delta^{3,7}\text{-cannabidiol}$	1 and 6	2-(6-isopropenyl-3-methylenecyclohex-1-yl)-5- pentyl-1,3-benzenediol	Δ <sup>1,7</sup> -cannabidiol	3 and 4	4	No	unscheduled	H,C CH <sub>0</sub>
$\Delta^2$ -cannabidiol	1 and 6	2-(6-isopropenyl-3-methyl-2-cyclohexen-1- yl)-5-pentyl-1,3-benzenediol	Δ <sup>1</sup> -cannabidiol	3 and 4	4	Yes	unscheduled	H <sub>1</sub> C CH <sub>3</sub>
$\Delta^1$ -cannabidiol	3 and 6	2-(6-isopropenyl-3-methyl-1-cyclohexen-1-yl)-5- pentyl-1,3-benzenediol	$\Delta^2$ -cannabidiol	1 and 4	4	No	unscheduled	H,C CH <sub>9</sub>
$\Delta^6$ -cannabidiol	3	2-(6-isopropenyl-3-methyl-6-cyclohexen-1-yl)-5- pentyl-1,3-benzenediol	$\Delta^3$ -cannabidiol	1	2	No	unscheduled	H <sub>2</sub> C CH <sub>3</sub>

Based on: Nagaraja, Kodihalli Nanjappa, Synthesis of delta-3-cannabidiol and the derived rigid analogs, Arizona University 1987.

See also: Tetrahydrocannabinol#Isomerism, Abnormal cannabidiol.

### Society and culture [edit]

### Natural sources [edit]

Selective breeding by growers in the USA dramatically lowered the CBD content of cannabis; their customers preferred varietals that were more mind-altering due to a higher THC, lower CBD content. [51] To meet the demands of medical cannabis patients, growers are currently developing more CBD-rich strains. [52]

Several industrial hemp varieties can be legally cultivated in western Europe. A variety such as "Fedora 17" has a cannabinoid profile consistently around 1% cannabidiol (CBD) with THC less than 0.1% [53]

### Legal status [edit]

Cannabidiol is not scheduled by the Convention on Psychotropic Substances. CBD does not cause the "high" associated with the  $\Delta 9$ -THC in marijuana. As the legal landscape and understanding about the differences in medical cannabinoids unfolds, it will be increasingly important to distinguish "medical marijuana" (with noted varying degrees of psychotropic effects and deficits in executive function) - from "medical CBD" (in which the high CBD and low THC content may mitigate psychosis). [54][50][50]

Various breeds/strains of "medical marijuana" are found to have a significant variety in the ratios of CBD-to-THC and are known to contain other non-psychotropic cannabinoids. [57][58] However it is only the amount of Δ9-THC that chemically gives a legal determination as to whether the plant material(s) used for the purposes of extracting CBD are considered hemp, or considered marijuana.

Any psychoactive marijuana, regardless of its CBD content, is derived from the flower (or bud) of the genus cannabis. Non-psychoactive hemp (also commonly-termed industrial hemp), regardless of its CBD content, is any part of the genus cannabis plant, whether growing or not, containing a Δ-9 tetrahydrocannabinol concentration of no more than three-tenths of one percent (0.3%) on a dry weight basis. Certain standards are required for the legal growth and production of hemp. The Colorado Industrial Hemp Program registers growers of industrial hemp and samples crops to verify that the THC concentration does not exceed 0.3% on dry weight basis.

The United States Drug Enforcement Administration, the DEA, recently eased some of the regulatory requirements for those who are conducting FDA-approved clinical trials on cannabidiol (CBD). [60]

### Australia Lodit

Prescription Medicine (Schedule 4) for therapeutic use containing 2 per cent (2.0%) or less of other cannabinoids commonly found in cannabis (such as  $\Delta 9$ -THC), [81]

### Canada [edit

Cannabidiol is a Schedule II drug in Canada. Prescription medication. [62]

### UK [odit]

Cannabidiol, in an oral-mucosal spray formulation combined with delta-9-tetrahydrocannabinol, is a prescription product available for relief of severe spasticity due to multiple sclerosis (where other antispasmodics have not been effective). [63]

### EU [edit]

Cannabidiol is listed in EU Cosmetics Ingredient Database. [64]

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# External links [edit]

• Project CBD & Non-profit educational service dedicated to promoting and publicizing research into the medical utility of cannabidiol.

	show]
T-E Cannabinoids [si	
	show]
T-E Cannabis plant (drug usage and industrial uses) [st	show]
T-E Cannabinoidergics [st	show]
T-E Opioidergics [st	show]
T-E Serotonergics [sl	show]
T-E Anticonvulsants (N03) [sl	show]

Categories: Drugs not assigned an ATC code | 5-HT1A agonists | Anti-inflammatory agents | Cannabinoids | Natural phenols | Resorcinols | Endocannabinoid reuptake inhibitors | Anticonvulsants

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